

MOTION SENSOR 360 - PLASTER IN - KNX

M360-PI-KNX



FARADITE

OVERVIEW



The Faradite Motion Sensor 360 - Plaster In - KNX is a remarkably small KNX motion sensor with an integrated brightness sensor and huge set of functions.

The sensor can have up to 4 independent functions each with independent timeouts and configuration parameters. (see features on page 2)

TECHNICAL DATA

Operating Voltage	21-31V DC SELV (KNX Bus)
KNX Medium	TP1-256
Power Consumption	10mA @ 30V DC
Sensors	Motion (PIR), Brightness
Brightness sensor measure range	0 - 2000lx
Operating temperature	0-45 °C (indoor clean environment)
Storage	-5 - 45°C
Transport	-25 - 70°C
Wire Gauge	18-20 AWG
Pollution degree	PDII
Weight	23g
Operating Humidity	5% - 95%
Storage Humidity	5% - 95%
IP rating	IP20
Protection class	III
Range	5M
Max mounting height	3m (for optimal performance)
Installation hole	51mm
Push-fit connector	Wago 243-211

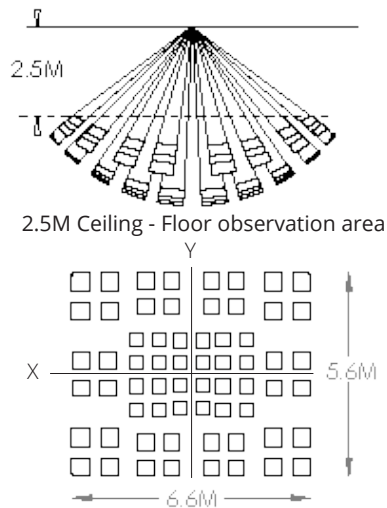
OBSERVATION AREA

The following conditions have to be met to detect motion:

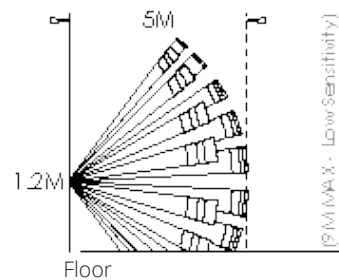
1. Movement speed: 1.0m/s
2. Target concept is a human body (Min object size: ~700×250mm)
3. The temperature difference between the target and the surroundings must be greater than 4 °C.

The sensor can be installed horizontally or vertically.

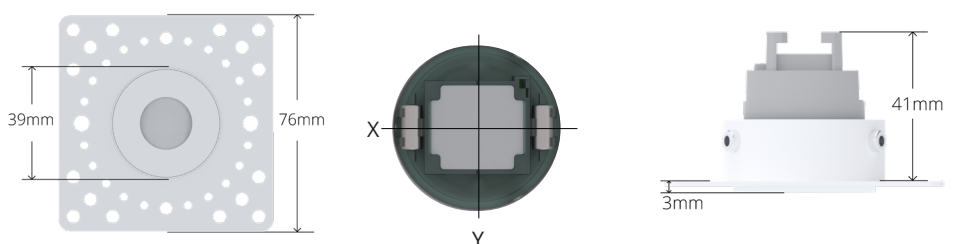
Horizontal Installation



Vertical Installation



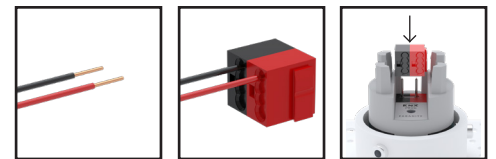
DIMENSIONS



ELECTRICAL CONNECTIONS

KNX cable must be used to connect the motion sensor to the installation.

- 1: Strip the red and black KNX cable cores back to 6mm copper
- 2: Push into Wago terminals
- 3: Align and push the Wago connector onto the pins.
- 4: To remove - pull connector upwards.

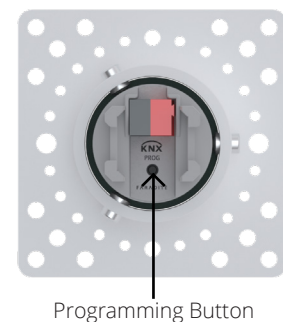


POWER SUPPLY

Only certified KNX power supply can be used. Power supply must have short circuit protection.

KNX PROGRAMMING BUTTON

The KNX Programming button is located on the back of the sensor. Use a small screw driver to push the button. The light window on the front of the sensor will glow red when in programming mode.



FEATURES

4 independent functions each with independent parameters

6 function types

- Switching,
- Dimming value,
- Scenes,
- HVAC
- Advanced value sending, with 10 different object types
- Constant light control

Constant light control / Daylight harvesting

- Teach in brightness setpoint group object
- Constant light control standby dimming level function
- Support for manual interaction via 4 bit telegrams

Day / Night functionality

- Set different timeout, brightness threshold / set point and values to send on motion and timeout depending on time of day

Master / Slave / Multi master modes possible

Advanced push button input functionality

- Extend timeout on manual intervention
- Optionally block sensor on manual intervention
- Unblock sensor when room when room is unoccupied, after a delay, immediately or after room is unoccupied.

Brightness sensor

- 2 threshold triggers (greater than / less than)
- Support for external or internal brightness sensor
- Measurement of multiple light sources such as LEDs, fluorescent lamps and halogen/incandescent lamps

Advanced behavior settings

- 4 operating modes (Fully automatic, absence, presence, and fully manual)
- Bus recovery options
- Cyclic sending

Set key parameters via objects

- Timeout
- Brightness Threshold
- Brightness Setpoint (Constant Light Control)
- Standby dimming level (Constant Light Control)

Diagnostic options

- Visual feedback LED
- Simple test mode for validating detection area
- Heartbeat object

Directive 2014/30/EU (Electromagnetic Compatibility (EMC))

Directive 2012/19/EU (WEEE)

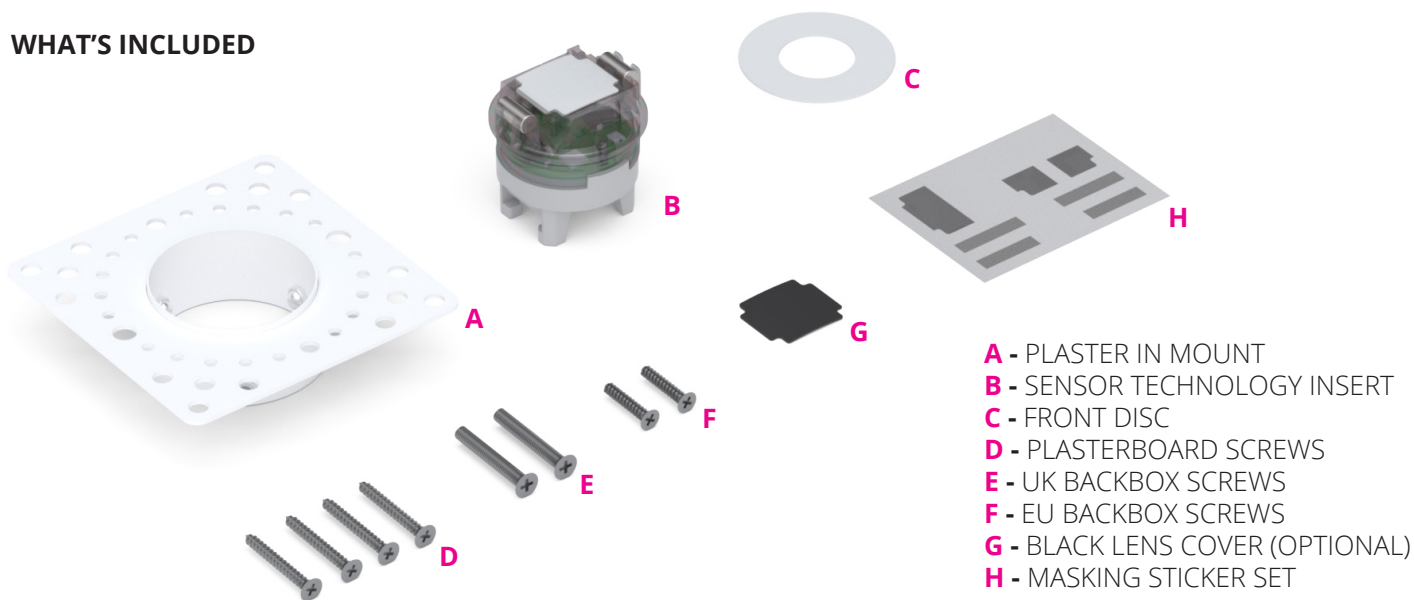
Directive 2011/65/EU (RoHS)

Harmonised standards: EN 61000-6-1 Immunity for residential, commercial and light-industrial environments & EN 61000-6-3 Emission standard for residential, commercial and light-industrial environments in addition to EN 50491-5-2:2010

EN 60730-1:2016 - control type 1.Y, control Class A, rated 300,000 cycles and 60,000 hours



WHAT'S INCLUDED

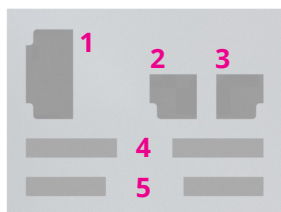


- A** - PLASTER IN MOUNT
- B** - SENSOR TECHNOLOGY INSERT
- C** - FRONT DISC
- D** - PLASTERBOARD SCREWS
- E** - UK BACKBOX SCREWS
- F** - EU BACKBOX SCREWS
- G** - BLACK LENS COVER (OPTIONAL)
- H** - MASKING STICKER SET

MASKING/BLOCKING

The PIR sensor used in this device detects the infrared heat that is emitted from people in the detection area. Unwanted detection can be avoided by applying the supplied infrared blocking stickers to the sensor to block the sensor detecting infrared heat in this area.

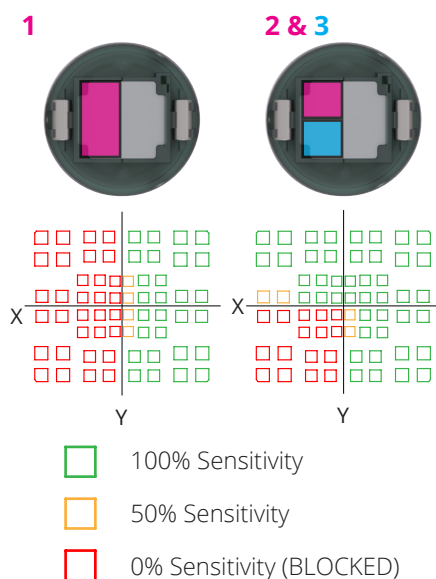
We have included a masking sticker set (H), these can be applied directly to the sensor technology insert, underneath the lens cover to tailor the detection area of the sensor without impacting the aesthetic of the installed device.



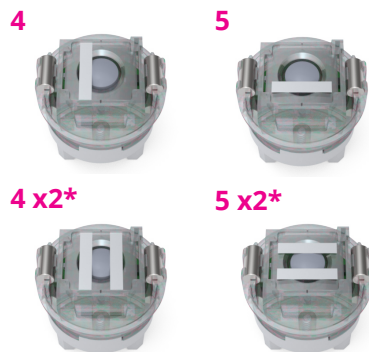
The following infrared blocking stickers are included in the masking sticker set (H)

- 1** Half Blocking
- 2** Quarter Blocking (left)
- 3** Quarter Blocking (right)
- 4** Long Blocking Strip
- 5** Short Blocking Strip

MASKING DETECTION AREAS



The long blocking strip (4) and short blocking strips (5) can be used freely to create custom blocking where required. Please note, exact beam patterns cannot be guaranteed when freely masking using these strips. Some examples of using the short and long blocking strips can be seen below:



**These variations may impact brightness sensor readings.*

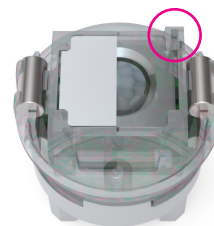
APPLYING MASKING STICKERS

To apply the supplied infrared blocking stickers:

1) Remove the lens cover by carefully using a blade to lift the lens cover from the edge perpendicular to the magnets.



2) Peel your chosen infrared blocking sticker from the masking sticker set and apply to the sensor technology insert front.



Ensure sticker is applied to opposite side to the notch detail circled to avoid impacting light sensor.

3) Reinstall the lens cover in to the sensor technology insert by inserting one edge under the plastic lip and pushing in the opposite.

4) Insert the sensor technology insert back into plaster in mount, rotate to fine tune for desired blocking orientation.

MOUNTING & SAFETY PRECAUTIONS

1) Do not under any circumstance use the device outside the range of their ratings shown in the technical data.

2) Faradite is committed to making products of the highest quality and reliability. Nevertheless, all electrical components are subject to natural deterioration, and the product durability will depend on the operating environment and conditions of use.

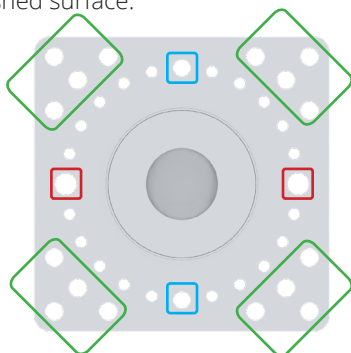
3) Please note that the motion sensor can detect heat sources other than the human body, such as:




- a) Small animals
- b) Direct sun light, incandescent lamps, car headlights (even if the heat source is outside the detection area)
- c) Sudden temperature change inside or around the detection area i.e. hot or cold winds/drafts or vapour from a humidifier can affect the performance of the motion sensor.

4) Please note that the motion sensor will have difficulty sensing the heat source if it is behind glass, acrylic or similar materials, as these materials may not allow a correct transmission of infrared rays.

SCREW HOLES

It is essential that the correct screws are used in the correct holes. Using incorrect screw may mean screw tops are proud of finished surface.



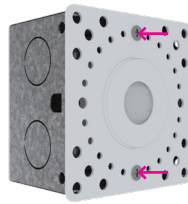
-  Plasterboard Screws (D)
-  UK Backbox (E)
-  EU Backbox (F)

The UK back box holes (E) are larger than the EU backbox holes (F).

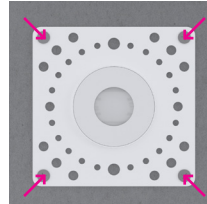
BACKBOX OPTIONS

The M360-PI can be installed directly in to plasterboard using the outer mounting holes. There are also holes for EU back boxes and UK back boxes. Please ensure correct screws (included) are used. See SCREW HOLES below for more information.

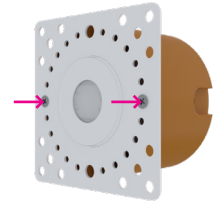
UK BACKBOX



PLASTERBOARD



EU BACKBOX



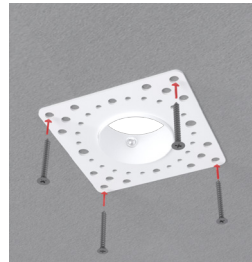
INSTALLATION STEPS - PLASTERBOARD

1



Cut 51mm hole in plasterboard for plaster in plate.

2



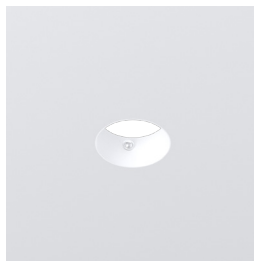
Use supplied screws to mount plate using outer corner holes.

3



Skim/plaster/apply mud to surface to be flush with front of plaster in plate.

4



Paint surface and ensure hole is clear of any debris.

5



Terminate cable and insert sensor unit until you hear a 'click'.

6



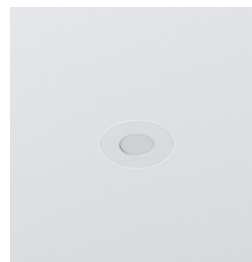
Rotate the sensor insert to desired direction.

7



Offer up front disk to magnets. Front disk can be painted to match ceiling colour.

8



Test and verify sensor functionality.

HOLE SAW SIZE

